Beyond Words

The pioneering research of Maria Ivanova, PHD '09, will offer new tools in the fight against aphasia in her homeland.

O
call the potential debilitating effects of a
troke, perhaps none is so traumatic as
aphasia. The neurological disorder, which
affects a patient’s ability to speak, comprehend, read, write and think verbally, can literally leave patients
speechless. In many ways aphasia attacks a patient's
very identity, says clinical psychologist Maria Ivanova,
PHD '09. "Language is part of what gives us our
personality," she says. "There are ways to compensate
for physical impairments, but there are no good ways to
do that when it comes to language." While there is no
cure for the devastating disorder, new tests developed by
Ivanova, who works at the Moscow Federal Center of
Speech Pathology and Neurorehabilitation, may
help shed light on the condition — and lead to more
promising future treatments.

Ivanova first worked with aphasia patients as a
third-year student at Lomonosov Moscow State
University, and she was drawn to the way the
disorder demonstrated how our mind works — and
sometimes doesn’t. Comprehending a sentence, for
example, is often as much about memory as it is about
understanding individual words, an insight that isn’t
obvious before working with aphasics. "We don’t realize
it consciously, but to comprehend a complex sentence,
we need to remember what was said in the beginning
to understand what we hear at the end," she explains. Our
language processing skills draw on a host of
different mental powers, and untangling how they work
together is one of the challenges of aphasia research.

As she delved deeper into her studies, she realized
that perhaps the best way to further the research in her
own country, Russia, was to head to the United States.
There is a more robust community of aphasia research
and researchers in America and with the right training,
she could help transform the direction of aphasia
diagnosis and research in her home country. The
communication and speech disorders program at Ohio
University turned out to be the perfect fit.

While at Ohio, she and Brooke Hollowell, director of Ohio’s neurolinguistics laboratory, began
developing standardized testing that could be given
to all Russian aphasics to assess their comprehension
abilities. Such tests are common in America and
many other countries, but Russian doctors have relied
primarily on qualitative assessments of individual
patients to provide treatment.

However, relying solely on an individual analysis
makes it nearly impossible to do large-scale
comparisons. "Standardized tests can help researchers
because they can find and describe groups with
similar language profiles," Ivanova says. "Testing helps
clinicians diagnose aphasia, compare individuals
to others to select appropriate treatment and track [a
patient’s] progress.

The test could have an impact on thousands — if
not hundreds of thousands — of aphasia sufferers.
According to Ivanova, nearly 500,000 Russians suffer from strokes each year, and about 20 percent
experience at least some temporary symptoms of
aphasia. She says that aphasia is typically under-
diagnosed, and the standardized tests could help make
accurate assessment easier. And although the test is
still a work in progress, she hopes that combining it
with the current assessments will lead to a richer trove
of data for Russian researchers and clinicians to mine
for patterns and potential treatments.

Ivanova’s work is groundbreaking on its own,
but also fits within a larger tradition of innovation
among CSD graduates, says Sally Martiello, associate
director of the CSD program. The nationally ranked
program, which celebrated its 75th anniversary with
a two-day event in September, recognized the work of
many graduates during the festivities.

Ivanova, meanwhile, is working half a world away
to carve out her own legacy. Without Ohio’s guidance,
she says, it wouldn’t have been possible. "Before I
came to Ohio University, I had a lot of questions, but
I didn’t know how to look for the answers," she says.
"I have much more knowledge now. And even though
I still have many questions, I now feel like I have the
tools to search for these answers."

Erick Peterson

Maria Ivanova, PHD ’09, uses the latest
research to validate speech and language
disorders in her clients at the Moscow
Federal Center of Speech Pathology and
Neurorehabilitation. A pioneer in clinical
aphasology in Russia, Ivanova is working
to establish speech-language pathology
as a specialty. "[Russia’s] new generation of
researchers and clinicians appreciate the
need for standardized testing, and in five
or 10 years, the situation will be much better," she
says. "I hope to contribute to that change."